

AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-7. (Cancelled)

8. (Currently Amended) A photovoltaic device comprising:

a first conductivity type crystalline semiconductor substrate having a front surface and a back surface and receiving light incident from the side of said front surface;

a substantially intrinsic first amorphous semiconductor layer formed on said front surface of said crystalline semiconductor substrate, the substantially intrinsic first amorphous semiconductor layer consisting of a single layer;

a second conductivity type second amorphous semiconductor layer formed on said first amorphous semiconductor layer; and

a transparent conductive film, formed on said second amorphous semiconductor layer, including an indium oxide layer having (222) plane orientation with two (222) peaks in said indium oxide layer, wherein said two (222) peaks includes a first peak having an intensity (I1) and a second peak having an intensity (I2) and the ratio (I1/I2) of the intensity (I1) of said first peak to the intensity (I2) of said second peak is around 0.5 excluding 0.46,

wherein said indium oxide layer contains Sn, and the content of Sn with respect to In in said indium oxide layer is at least about 2 percent by weight and not more than about 7 percent by weight,

wherein a collector is formed on the transparent conductive film.

9. (Original) The photovoltaic device according to claim 8, wherein said (222) peaks in said indium oxide layer include:

a first peak having an angle 2θ (θ : X-ray diffraction angle) of about 30.1 ± 0.1 degrees,

and

a second peak having an angle 2θ (θ : X-ray diffraction angle) of about 30.6 ± 0.1 degrees.

10. (Original) The photovoltaic device according to claim 9, wherein

the ratio (I1/I2) of the intensity (I1) of said first peak to the intensity (I2) of said second peak is at least about 0.07 and not more than about 0.9.

11. (Original) The photovoltaic device according to claim 10, wherein

the ratio (I1/I2) of the intensity (I1) of said first peak to the intensity (I2) of said second peak is at least about 0.25 and not more than about 0.75.

Claims 12-13 (Canceled).

14. (Original) The photovoltaic device according to claim 8, wherein

said crystalline semiconductor substrate is an n-type semiconductor substrate, and said second amorphous semiconductor layer is a p-type semiconductor layer.

Claims 15-18. (Cancelled)

19. (Currently Amended) A photovoltaic device comprising:

a first conductivity type single-crystalline silicon substrate having a front surface and a back surface and receiving light on the side of said front surface;

a substantially intrinsic first amorphous silicon layer formed on said front surface of said single-crystalline silicon substrate, the substantially intrinsic first amorphous silicon layer consisting of a single layer;

a second conductivity type second amorphous silicon layer formed on said first amorphous silicon layer; and

a transparent conductive film, formed on said second amorphous silicon layer, including an indium oxide layer having (222) plane orientation with two (222) peaks in said indium oxide layer, wherein said two (222) peaks includes a first peak having an intensity (I1) and a second peak having an intensity (I2) and the ratio (I1/I2) of the intensity (I1) of said first peak to the intensity (I2) of said second peak is around 0.5 excluding 0.46,

wherein said indium oxide layer contains Sn, and the content of Sn with respect to In in said indium oxide layer is at least about 2 percent by weight and not more than about 7 percent by weight,

wherein a collector is formed on the transparent conductive film.

20. (Original) The photovoltaic device according to claim 19, wherein

said (222) peaks in said indium oxide layer include:

a first peak having an angle 2θ (θ : X-ray diffraction angle) of about 30.1 ± 0.1 degrees, and

a second peak having an angle 2θ (θ : X-ray diffraction angle) of about 30.6 ± 0.1 degrees.